

CaSR (6D4): sc-47741



The Power to Question

BACKGROUND

Extracellular calcium-sensing receptor (CaSR), also designated parathyroid cell calcium-sensing receptor, is an integral membrane protein that belongs to the G protein-coupled receptor three family. CaSR is involved in maintaining a stable calcium concentration by acting as a sensor of the extracellular calcium levels for the parathyroid and kidney. Its activity is mediated by a G protein which activates a phosphatidylinositol-calcium second messenger system. Defects that activate CaSR cause autosomal dominant hypocalcemia, whereas mutations that inactivate the protein cause familial hypocalciuric hypercalcemia. CaSR is expressed mainly in kidney, and is also expressed in intestine, placenta and brain.

CHROMOSOMAL LOCATION

Genetic locus: CASR (human) mapping to 3q21.1; Casr (mouse) mapping to 16 B3.

SOURCE

CaSR (6D4) is a mouse monoclonal antibody raised against amino acids 15-29 of CaSR of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CaSR (6D4) is available conjugated to agarose (sc-47741 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47741 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47741 PE), fluorescein (sc-47741 FITC), Alexa Fluor® 488 (sc-47741 AF488), Alexa Fluor® 546 (sc-47741 AF546), Alexa Fluor® 594 (sc-47741 AF594) or Alexa Fluor® 647 (sc-47741 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-47741 AF680) or Alexa Fluor® 790 (sc-47741 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CaSR (6D4) is recommended for detection of CaSR of mouse, rat, human and rabbit origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CaSR siRNA (h): sc-44373, CaSR siRNA (m): sc-44374, CaSR shRNA Plasmid (h): sc-44373-SH, CaSR shRNA Plasmid (m): sc-44374-SH, CaSR shRNA (h) Lentiviral Particles: sc-44373-V and CaSR shRNA (m) Lentiviral Particles: sc-44374-V.

Molecular Weight of CaSR: 160 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, rat placenta extract: sc-364808 or rat brain extract: sc-2392.

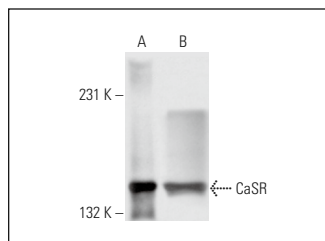
RESEARCH USE

For research use only, not for use in diagnostic procedures.

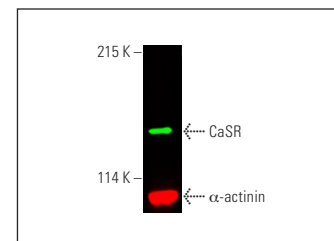
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



CaSR (6D4): sc-47741. Western blot analysis of CaSR expression in rat brain (A) and rat placenta (B) tissue extracts.



Simultaneous direct near-infrared western blot analysis of CaSR expression, detected with CaSR (6D4) Alexa Fluor® 680: sc-47741 AF680 and α-actinin expression, detected with α-actinin (H-2) Alexa Fluor® 790: sc-17829 AF790 in rat placenta tissue extract. Blocked with UltraCrz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

- Bingham, E.L., et al. 2009. Differentiation of human embryonic stem cells to a parathyroid-like phenotype. *Stem Cells Dev.* 18: 1071-1080.
- Woods Ignatoski, K.M., et al. 2011. Directed *trans*-differentiation of thymus cells into parathyroid-like cells without genetic manipulation. *Tissue Eng. Part C Methods* 17: 1051-1059.
- Baran, N., et al. 2015. Novel activating mutation of human calcium-sensing receptor in a family with autosomal dominant hypocalcaemia. *Mol. Cell. Endocrinol.* 407: 18-25.
- Wilkinson, R.D., et al. 2016. A bioavailable cathepsin S nitrile inhibitor abrogates tumor development. *Mol. Cancer* 15: 29.
- Xin, X., et al. 2018. The suppressive role of calcium sensing receptor in endometrial cancer. *Sci. Rep.* 8: 1076.
- Mattar, P., et al. 2018. Autophagy mediates calcium-sensing receptor-induced TNFα production in human preadipocytes. *Biochim. Biophys. Acta Mol. Basis Dis.* 1864: 3585-3594.
- Odutola, S.O., et al. 2019. Protein kinase C downregulation enhanced Ca²⁺-induced relaxation of isolated mesenteric arteries from aged Dahl salt-sensitive rats. *J. Pharmacol. Exp. Ther.* 370: 427-435.
- Yuan, H., et al. 2019. Calcium-sensing receptor promotes high glucose-induced myocardial fibrosis via upregulation of the TGF-β1/Smads pathway in cardiac fibroblasts. *Mol. Med. Rep.* 20: 1093-1102.
- D'Espessailles, A., et al. 2019. Calcium sensing receptor activation in THP-1 macrophages triggers NLRP3 inflammasome and human preadipose cell inflammation. *Mol. Cell. Endocrinol.* 14: 110654.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.